

RVSB Transmitter (initial concept)

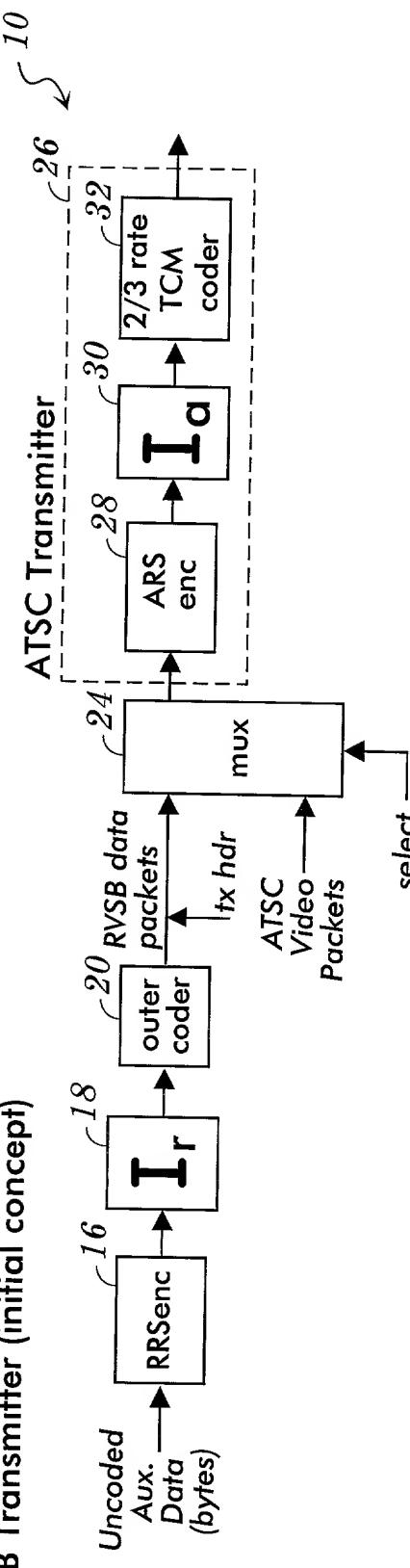


Figure 1

mapper function				
Z2	Z1	Z0	level	
0	0	0	-7	
0	0	1	-5	
0	1	0	-3	
0	1	1	-1	
1	0	0	+1	
1	0	1	+3	
1	1	0	+5	
1	1	1	+7	

Figure 5

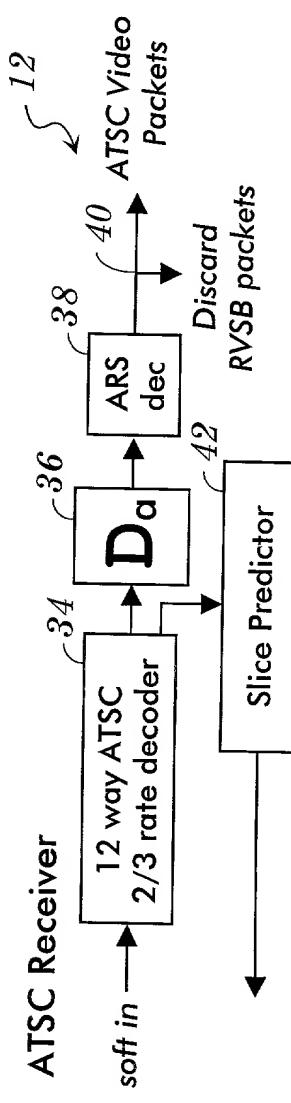


Figure 2

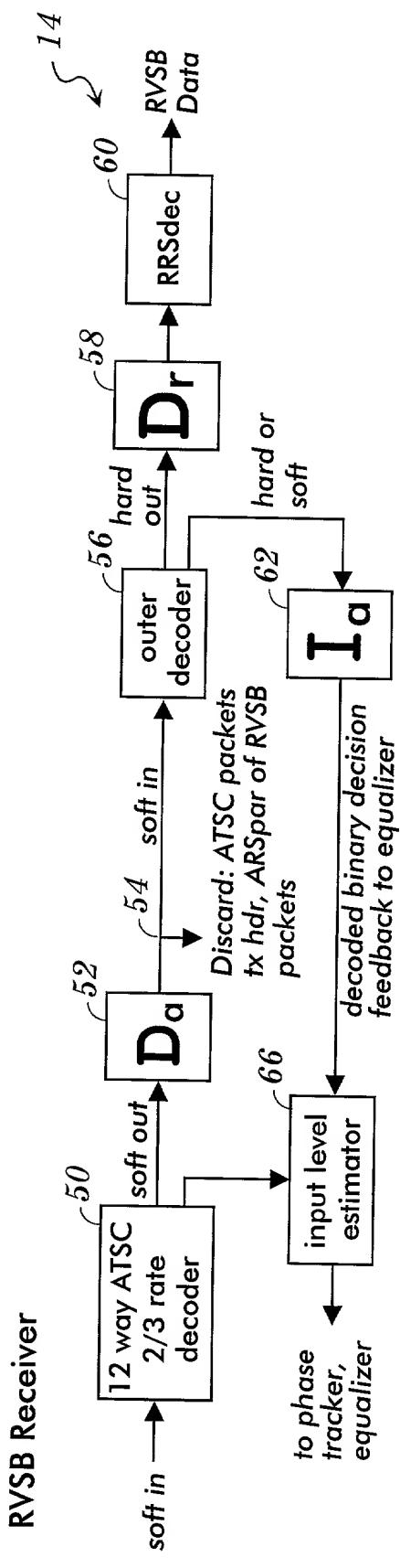


Figure 3

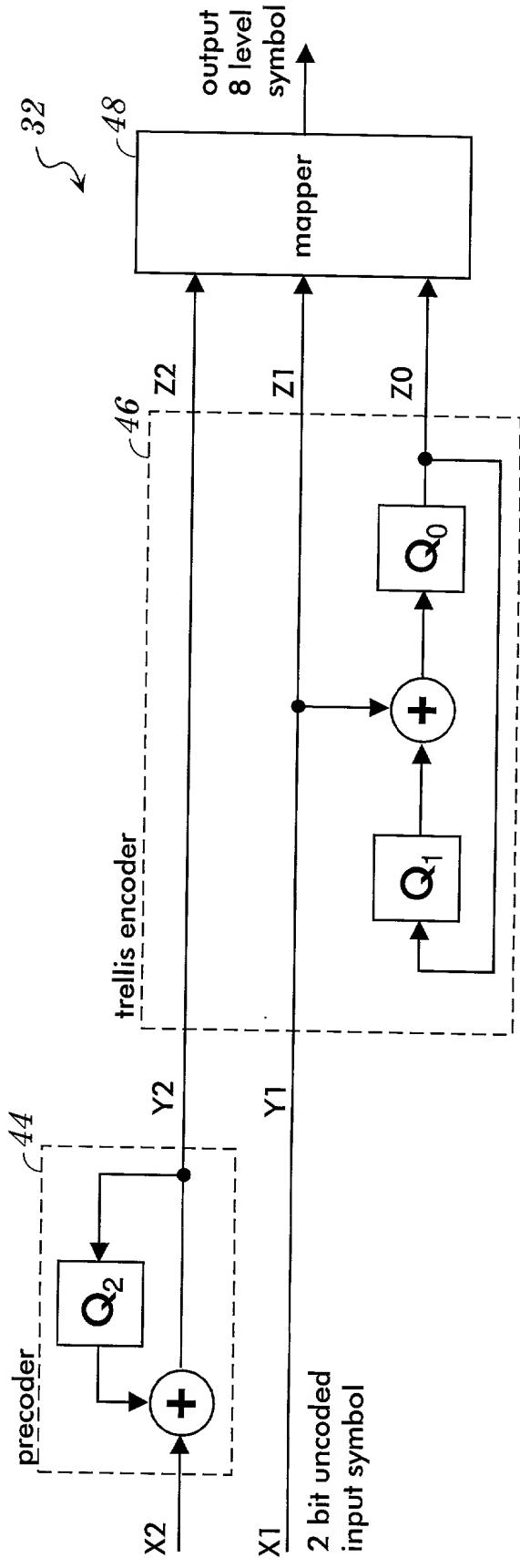


Figure 4

branch label :
 X_2X_1 / mapped output level

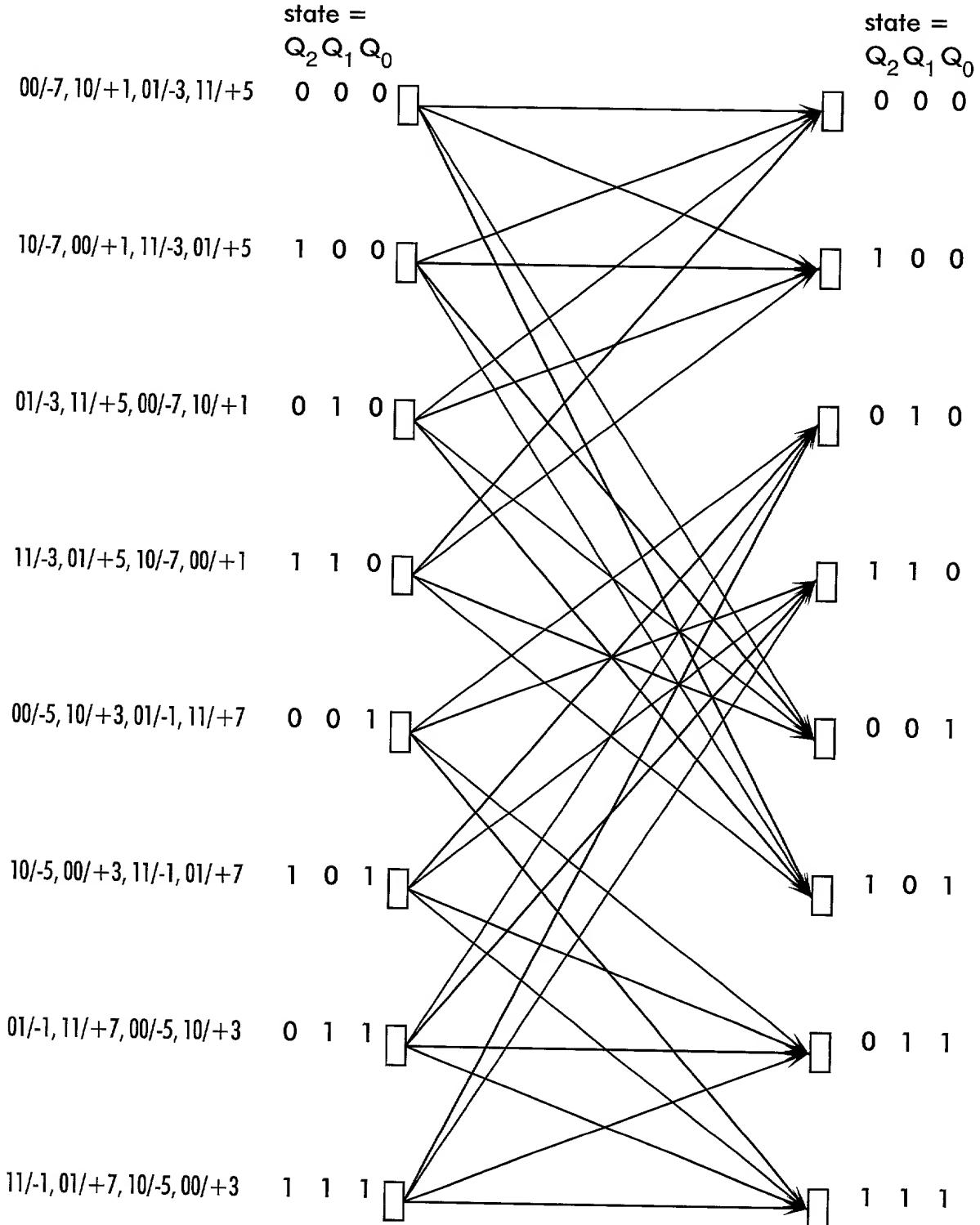


Figure 6

RVSB Transmitter

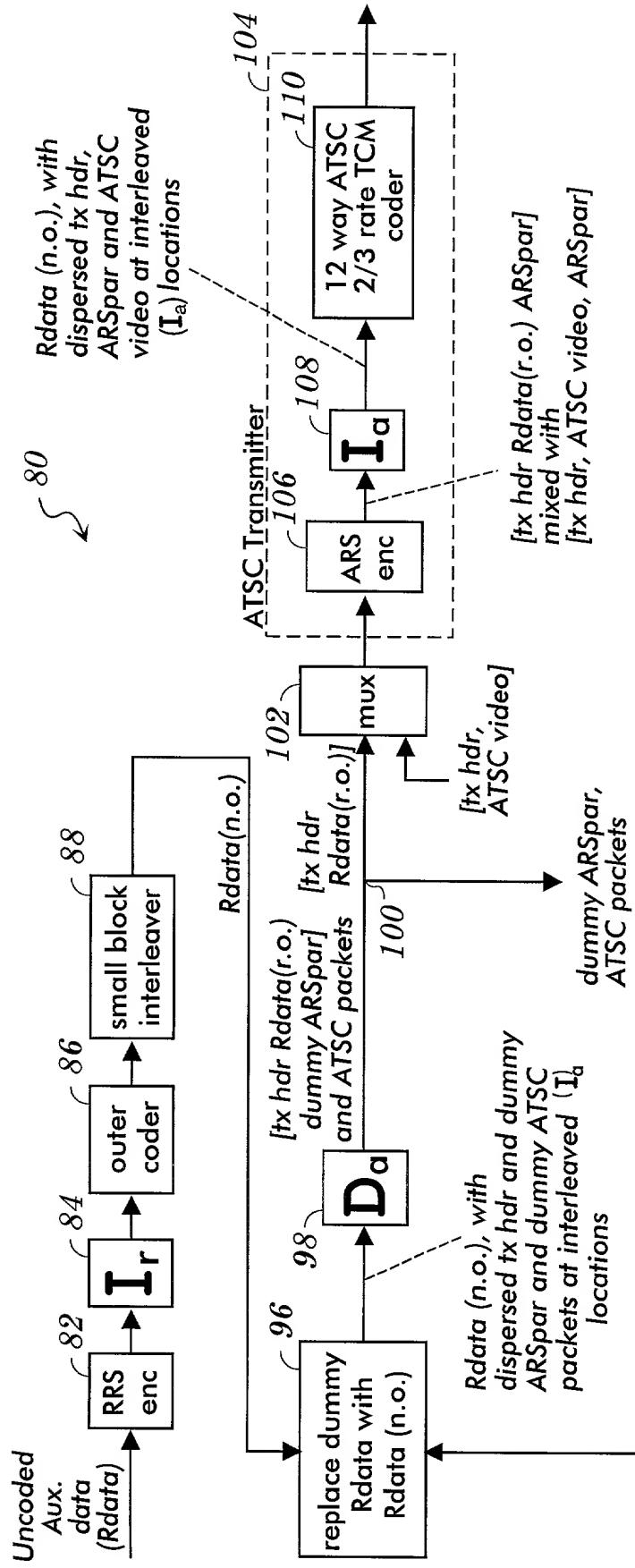
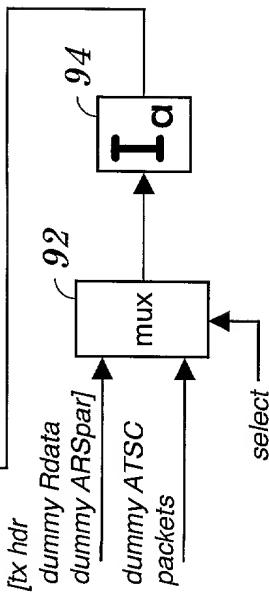


Figure 7



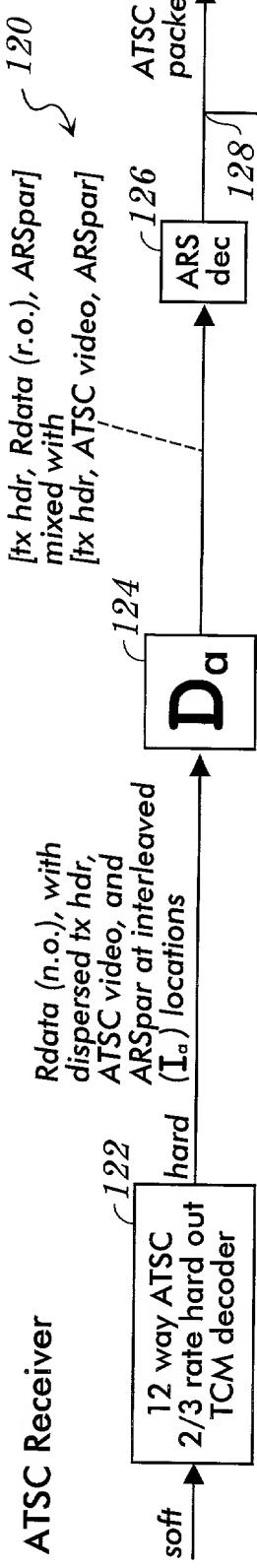


Figure 8

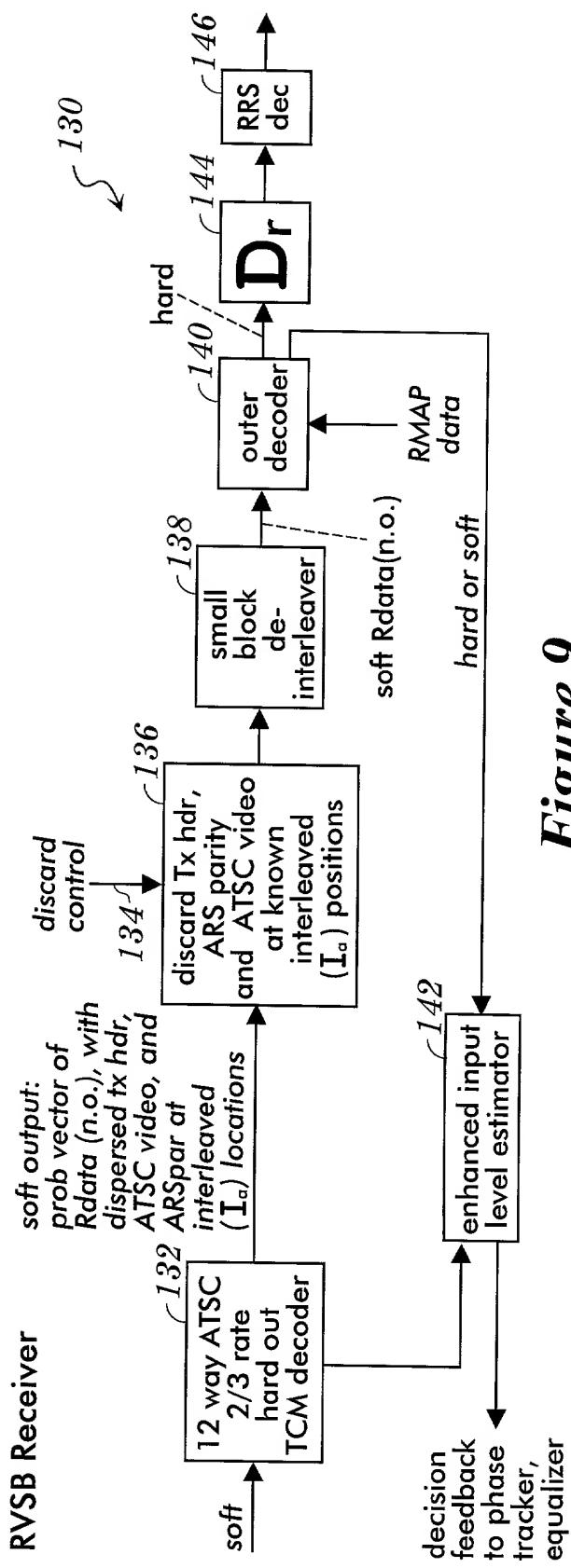


Figure 9

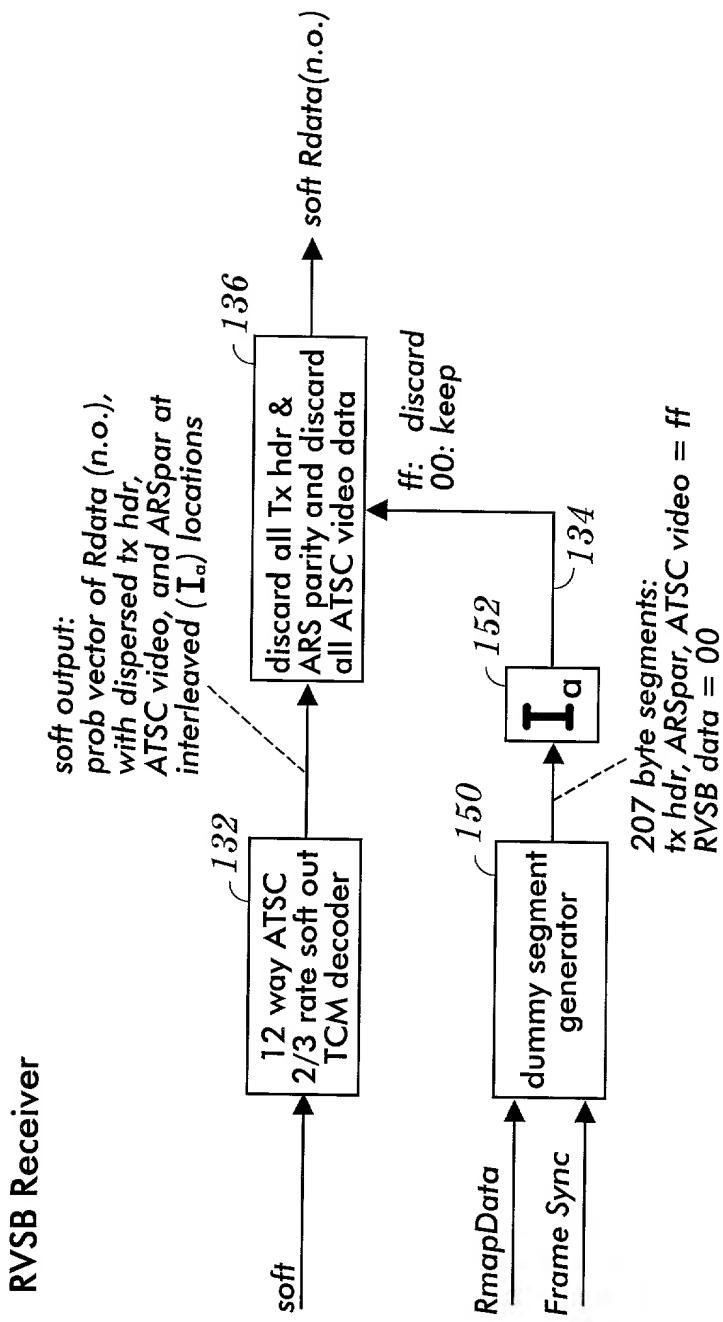


Figure 10

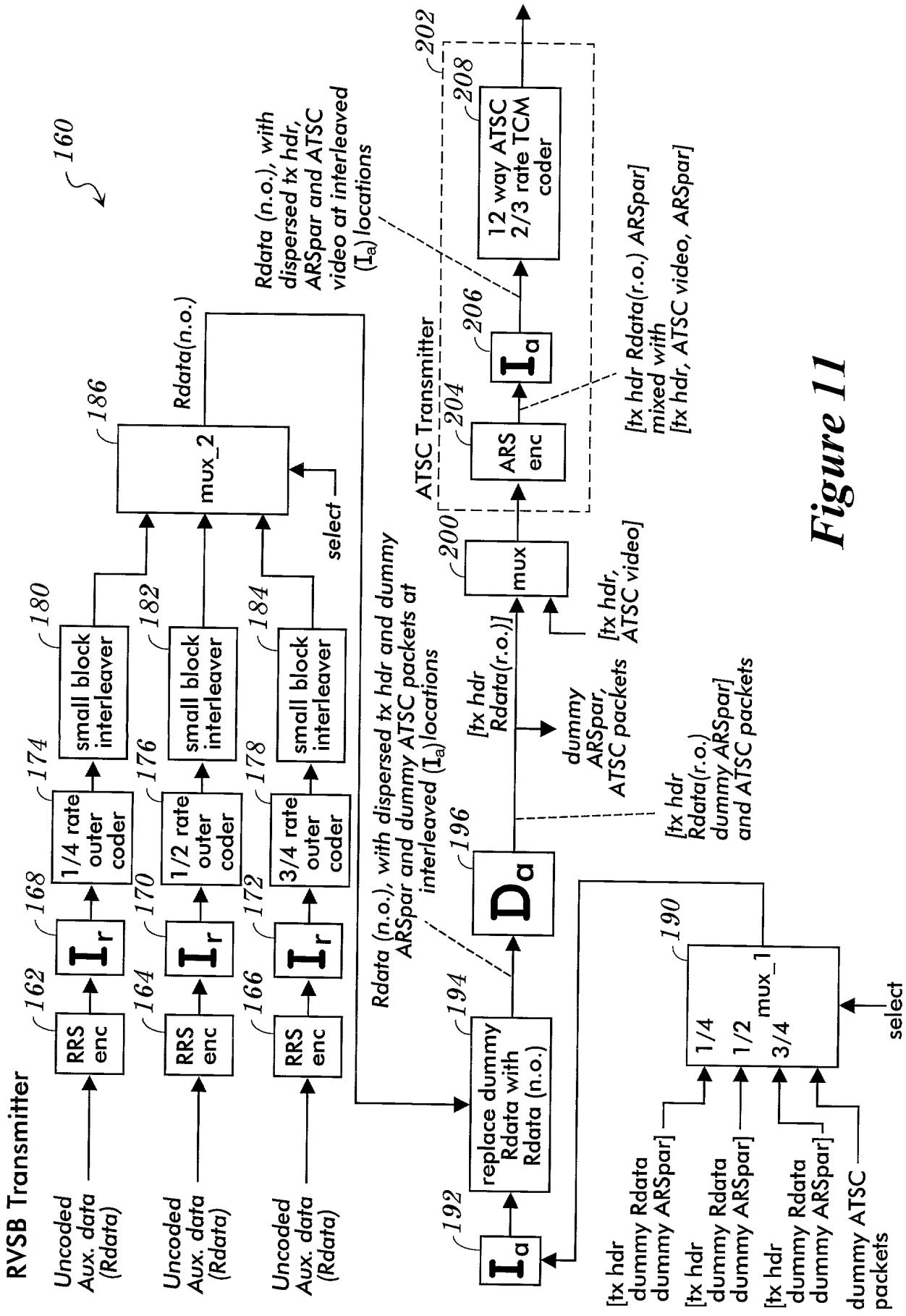


Figure 11

for 1/2 rate outer code

ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 92 bytes payload	RRS parity (160 symbols) 20 bytes	ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (576 symbols) 72 bytes payload	RRS parity (160 symbols) 20 bytes	ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 92 bytes payload	RRS parity (160 symbols) 20 bytes	ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (576 symbols) 72 bytes payload	RRS parity (160 symbols) 20 bytes	ARS parity (80 symbols)

2 bits/symbol

1 bit/symbol

2 bits/symbol

Figure 12

for 1/4 rate outer code

ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 46 bytes payload	RRS parity (320 symbols) 20 bytes	ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 46 bytes payload	RRS parity (320 symbols) 20 bytes	ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 46 bytes payload	RRS parity (320 symbols) 20 bytes	ARS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (416 symbols) 26 bytes payload	RRS parity (320 symbols) 20 bytes	ARS parity (80 symbols)

2 bits/symbol

0.5 bit/symbol

2 bits/symbol

Figure 13

for 3/4 rate outer code

ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 138 bytes payload	RRS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 26 bytes payload 20 bytes RRS parity 92 bytes payload	RRS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 72 bytes payload 20 bytes RRS parity 46 bytes payload	RRS parity (80 symbols)
ATSC tx hdr (12 symbols)	RVSB data (736 symbols) 118 bytes payload 20 bytes RRS parity	RRS parity (80 symbols)

2 bits/symbol

1.5 bit/symbol

2 bits/symbol

Figure 14

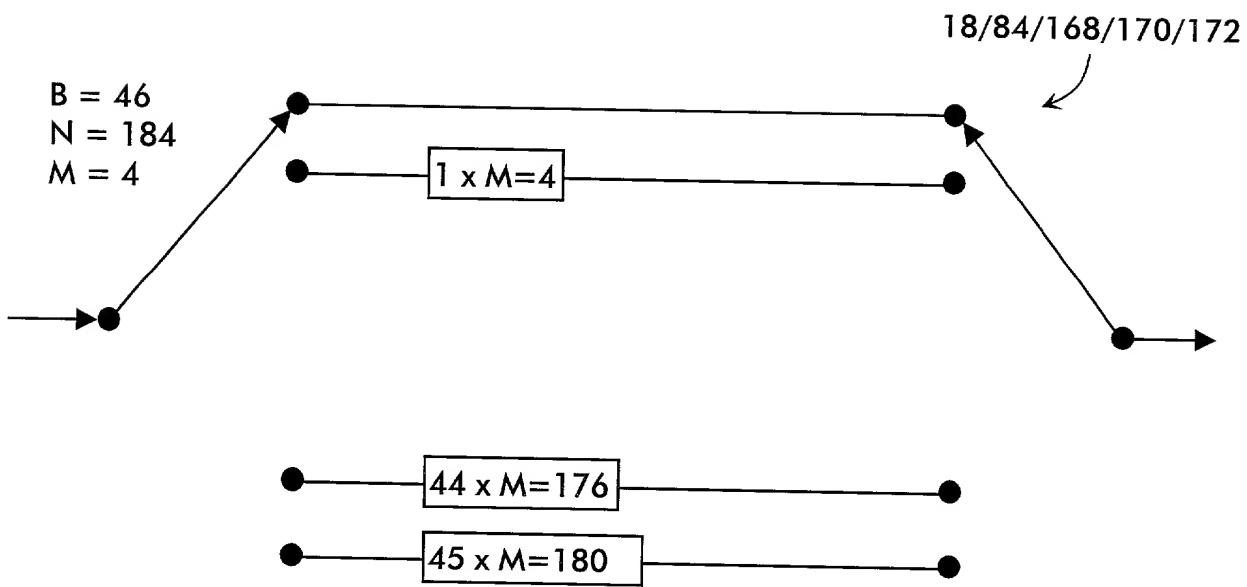


Figure 15

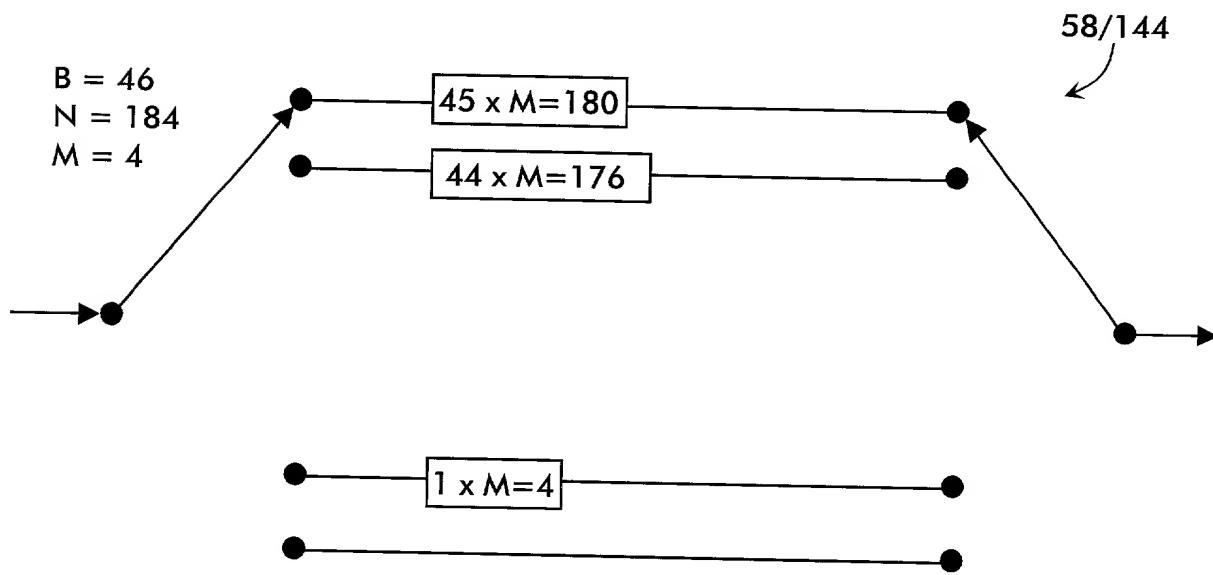


Figure 16

First RVSB RS block of field

RVSB map data (24 bits)	1288 bits
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Figure 17

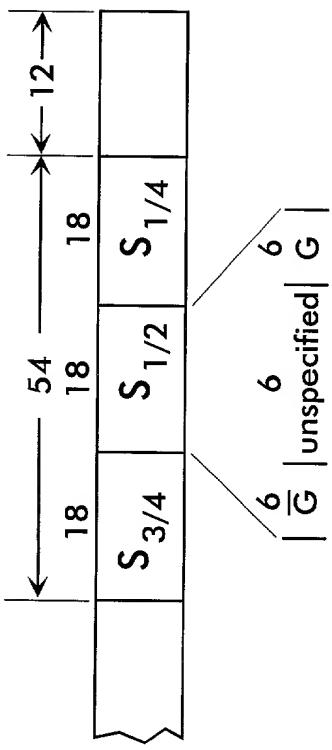


Figure 18

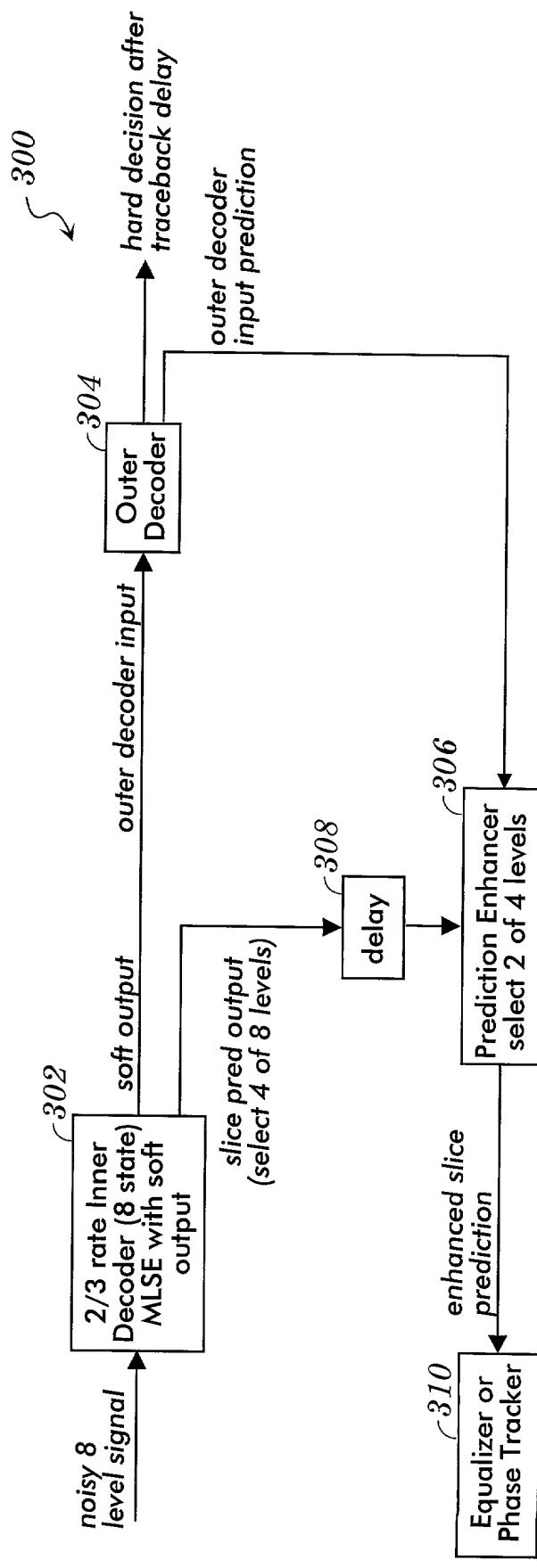


Figure 19

branch labeling:
decoder input level / decoder output

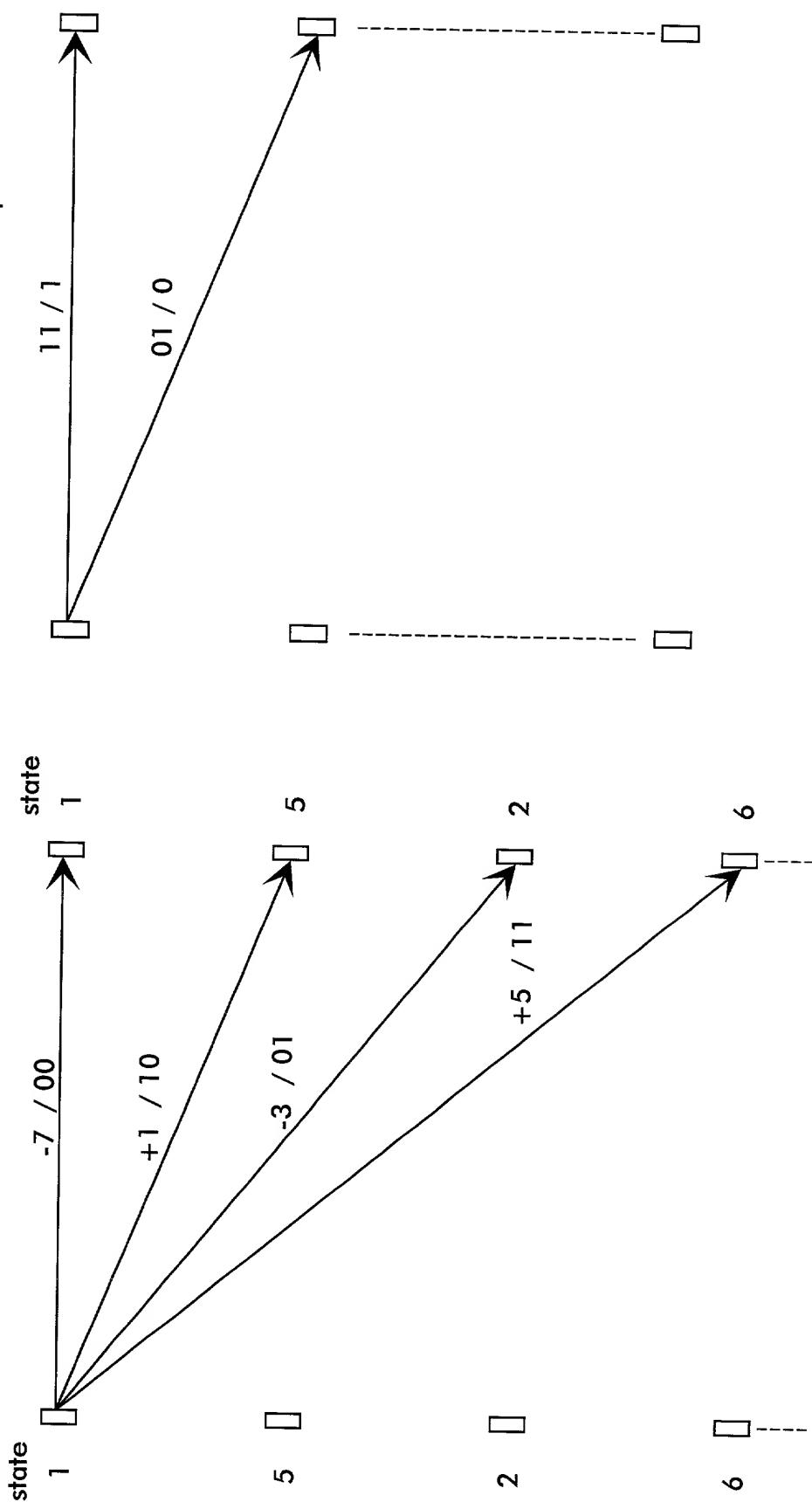


Figure 20

Figure 21

Figure 22

